

REMARKS / ARGUMENTS

Examiner Klimowicz is thanked for the thorough examination of the subject Patent Application. The claims have been carefully reviewed and amended, and are considered to be in condition for allowance.

This structure and method for minimizing EME (Electromagnetic Emission) and the crosstalk between the signal lines which are used to write and read the tracks of magnetic disk drives. These signal lines are located on magnetic trace suspension assemblies which move above the magnetic disk drives. The structure and method utilize well-placed single and multiple crossovers on either or both of the lines used to read and write the tracks on magnetic disks. In addition, the structure and method utilize the parasitic capacitances between the write and read lines to couple beneficial voltages which cancel the unwanted crosstalk noise.

Reconsideration of the rejection of claims 1, 3-6, 19 and 21-24, under 35 U.S.C. 103(a) as being unpatentable over Carpenter et al. (WO 98/20485 A1) in view of Murata et al. (JP 06-342858 A), is requested based on the following.

In the reply submitted November 2, 2007, there were two points made. The first is that the stated objective of Carpenter et al. is "providing reduced susceptibility to electromagnetic interference and stray signal pickup". Structurally, Carpenter solves its

stated objective above by using, “a twisted wire transmission pair in order to provide self-shielding of one or multiple signal pairs against unwanted electromagnetic noise (EMI) or radio frequency interference (RFI). Therefore, the instant application and Carpenter use different structures to solve different problems. In summary, the instant application solves the problem of preventing interference from the trace assembly itself from interfering with units outside of the trace assembly, while Carpenter solves the problem of protecting the trace assembly from interference from sources outside of the trace assembly. The title of Carpenter et al. contains the words “self-shielding”. On the other hand, independent claim 1 of the instant application, which is listed below, clearly states the purpose of the instant application which is “used to cancel out time-delayed (transmission line effects) parts of said crosstalk and said EME”.

A crosstalk and EME (electromagnetic emission) minimizing trace suspension assembly structure comprising:

- multiple write lines which are crossed between a preamplifier connection point and slider contact pads;

- multiple read lines driven by pre-amplifier circuits;

- slider contact pads, which connect said write lines to said trace suspension assembly;

- slider contact pads, which connect said read lines to said trace suspension assembly; and

- multiple write line driven by preamplifier circuits,

- wherein said multiple write lines which are crossed between said preamplifier connection point and said slider contact pads are used to cancel out time-delayed (transmission line effects) parts of said crosstalk and said EME,

- wherein a **single** crossing point of said write lines between said preamplifier connection point and said slider contact pads is placed halfway between said preamplifier connection point and said slider contact pads.

The examiner in the **Response to Arguments** section on page 7 of the November 27, 2007 Office Action does not address a rebuttal to this point of difference between the

stated different problems solved in Carpenter versus the instant application. Therefore, based on the wording of independent claims 1 and 19, which clearly states the advantage of the instant application, claims 1 and 19 and their dependent claims should be allowed over Carpenter et al.

The second point made in the reply submitted November 2, 2007, is that the examiner in the September 5, 2007 office action, reinforces the fact that "Carpenter et al. does not expressly disclose a single crossing point of said write lines between said preamplifier connection point and said slider contact pads...". The examiner does address this point in the **Response to Arguments** section on page 7 of the November 27, 2007 Office Action. However, the argument made by the examiner is weakened in a couple of areas. First, Murata does not explicitly state that there is an exact mid-point crossing of write lines. Murata states that "a field negates mutually" in paragraph 0016. A person skilled in the art cannot necessarily infer that this phrase describes an exact mid-point of the write lines. Also, a person skilled in the art cannot necessarily infer that if "a field negates mutually" that it will totally cancel the noise produced. Second, the instant application provides proof of the unexpected beneficial result that the noise produced is indeed completely canceled out by the mid-point crossing of the write lines as indicated by the rigorous equation result on page 12 of the instant application.

Thirdly, as previously stated, Murata et al. is in different fields of practice than the instant application and Carpenter. Murata is in the field of hybrid integrated circuits, whereas the instant application and Carpenter are in the field of magnetic recording

assemblies. Murata et al. refers to magnetic fields not induced crosstalk voltage caused by capacitive coupling as in the instant application. For example, this is clearly demonstrated in Murata's Purpose, "To obtain a hybrid integrated circuit enabling suppression of a magnetic field generated when a differential signal is transmitted and also improvement of a noise emission characteristic." The above shows that Murata is in a different field from both the instant application and in a different field from Carpenter. Therefore, as the Supreme Court has stated, it is "important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements" in the manner claimed. Since Murata is in the field of hybrid integrated circuits and not magnetic trace assemblies such as in the instant application and as in Carpenter, there is not a clear reason that would have prompted a person of ordinary skill in the relevant field to combine Murata with Carpenter. It can be argued that Murata is not pertinent to the instant application, since one ordinarily skilled in the art would not logically be expected to combine the trace assembly aspects of Carpenter with the integrated circuit designs of Murata. This is especially true, since the language of Murata does not explicitly state that the noise is totally suppressed. Therefore independent claims 1 and 19 should be allowed since there is no obvious reason to combined Carpenter with Murata. Similarly, dependent claims 3-6 and 21-24 which depend on independent claims 1 and 19 should now be allowed.

The examiner is thanked for the thorough review of this patent application. The changes to the specification do not introduce any new matter.

It is requested that should there be any problems with this Amendment, please call the undersigned Attorney at (845) 452-5863.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'SBA', with a long horizontal flourish extending to the right.

Stephen B. Ackerman, Reg. No. 37,761